REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 16-32 are presently active in this case, Claims 5-13 canceled and Claims 21-32 added by way of the present amendment.

In the outstanding Official Action, Claim 13 was rejected under 35 U.S.C. § 112, second paragraph; Claims 5-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 6,257,769 to Watanabe et al. in view of U.S. Patent No. 5,566,262 to Yamane et al.; Claim 13 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Watanabe et al. in view of U.S. Patent No. 5,235,658 to Dragon et al.; and Claims 16-20 were allowed.

First, Applicants wish to thank the Examiner for allowance of Claims 16-20.

With regard to the rejection of Claim 13 under 35 U.S.C. § 112, second paragraph, and the rejection of Claims 5-13 under 35 U.S.C. § 103(a), Claims 5-13 are now cancelled by way of the present amendment. Therefore, the rejection is moot.

Turning now to the merits, Applicants invention is directed to an optical waveguide module having an optical waveguide connected to an optical fiber. As discussed in Applicants' specification, prior art optical waveguide modules of this type are unreliable at high power because an adhesive or refractive index matching liquid that is interposed between the optical fibers and the optical waveguide becomes burned or deteriorated when exposed to high power. Applicants' invention is directed to overcoming this problem. That is, one object of the present invention is to provide an optical waveguide module capable of transmitting high-power light with high reliability.[1]

[1] Applicants' specification at page 2, lines 24-28.

Specifically, Applicants' new Claim 21 recites an optical waveguide module comprising an optical fiber having an axis and an end portion, a first connection member attached to the end portion of the fiber, and having a first end face and a tip of the end portion is projected from the first end face. Also recited is an optical waveguide chip aligned with the fiber in a connecting direction parallel to the axis of the fiber, the chip including a second end face opposite the first end face of the first connection member, a mount surface parallel to the connecting direction, and an optical waveguide extending under the mount surface, the optical waveguide having a port exposed in the second end face of the chip and brought into contact with the projecting tip of the fiber. Also recited is a second connection member mounted on the mount surface of the chip and being made of synthetic resin and cooperating with the first connection member to align the chip with the fiber, the second connection member having a third end face located at the side of the second end surface. The optical waveguide module also includes a press member for bringing the port of the chip into contact with the projecting tip of the fiber by pressing at least one of the optical waveguide chip and optical fiber in the connecting direction, the projecting tip of the fiber and the third end face of the second connection member are separated from each other in a direction perpendicular to the connecting direction.

Thus, new Claim 21 recites that an optical fiber has a projecting tip that is brought into contact with a port of the optical waveguide, and that an end face of a resinous second connection member and the projecting tip of the optical fiber are separated from each other in a direction perpendicular to the connecting direction. In other words, since the projecting end of the optical fiber is brought into contact with the port of the waveguide, it is not necessary to provide any adhesive agent or index matching agent between the projecting end and the port, and the module is capable of reliably transmitting the high-power light.[2] Furthermore,

[2] Applicants' specification at page 13, lines 12-21.

since the end face of the second connection member and the projecting end of the optical fiber are situated apart from each other in a direction perpendicular to the connecting direction, even if the second connection member expands, the undesired contact between the second connection member and the projecting end of the optical fiber is prevented. This enables the module to transmit the light with high reliability.[3]

In contrast, neither Watanabe et al. nor Yamane et al. disclose the limitation that an optical fiber has a projecting tip that is brought into contact with a port of the optical waveguide, or that an end face of a resinous second connection member and the projecting tip of the optical fiber are separated from each other in a direction perpendicular to the connecting direction as clearly recited in new Claim 21.

Applicants further note that neither Watanabe et al. nor Yamane et al. refers to the problem to be solved by the present invention, that the expansion of the second connection member decreases the reliability of the module. Therefore, Applicants submit that one of ordinary skill in the art would not be motivated to modify the cited references to arrive at the invention as claimed in new Claim 21. Thus, new Claim 21 patentably defines over the cited references. Moreover, as new Claims 22-32 depend from Claim 21, these claims also patentably define over the cited references.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application and the present application is believed to be in

[3] Applicants' specification at page 16, line 21 – page 18, line 14.

condition for formal allowance. An early and favorable action is therefore respectfully requested.

Respectfully submitted,

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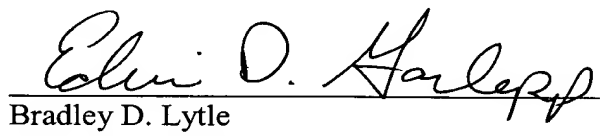

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